California Department of Health Services
Institutions Program

Public Health Fact Sheet

Arenavirus

What are arenaviruses?

Arenaviruses are generally associated with rodent transmitted diseases in humans. Each virus is usually associated with and maintained in a specific rodent host species. In parts of Africa and South America, arenaviruses are known which cause mild to severe infection characterized by fever, headache and occasionally sever bleeding or nervous system problems. Arenaviruses can cause viral hemorrhagic fever and Lassa fever. In the United States, arenaviruses have been found in several types of rodents, including woodrats, cotton rats and the common house mouse.

Who is at risk for infection and illness?

Rodents are generally carriers for the arenavirus. Humans may become infected through contact with the excretions or materials contaminated with the excretions of an infected rodent, such as ingestion of contaminated food, or by direct contact of abraded or broken skin with rodent excrement. Infection can also occur by inhalation of tiny particles soiled with rodent urine or saliva.

What are the symptoms?

Initial symptoms may be mild and nonspecific and may include fever, muscle aches, dizziness, malaise and weakness. These symptoms can progress to severe life-threatening diseases, including bleeding, shock and central nervous system involvement.

How are arenaviruses spread?

The rodent hosts of arenaviruses are chronically infected with the viruses; however, the viruses do not appear to cause obvious illness in them. Some arenaviruses appear to be passed from mother rodents to their offspring during pregnancy, and thus remain in the rodent population generation after generation.

Some arenaviruses are transmitted among adult rodent, likely via fighting and inflicting bites. Only a portion of the rodents in each host species is infected at any one time, and in many cases only in a limited portion of the host's

geographical range. The viruses are shed into the environment in the urine or droppings of their infected hosts.

How is a diagnosis of arenavirus made?

Scientists analyze a sample of body fluids or tissue, in an attempt to identify genes specific to the virus. In addition, scientists try to detect antibodies to arenavirus, stain tissues for evidence for the virus or isolate the virus in tissue culture.

What is the treatment?

Treatment for infections with arenaviruses is mainly supportive. Specific therapy with ribavirin, an anti-viral drug, has been shown to be effective in treating some African and South American arenavirus infections.

What can I do to prevent infection?

Do not touch of feed wild rodents or any other wild animals.

Properly dispose of trash and clutter; move woodpiles away from your residences.

Prevent rodents from entering residences by blocking holes; control rodents with spring-loaded (snap) traps.

Store food and garbage in rodent-proof containers; pet food should not be left outside.

Avoid creating dust when cleaning buildings with signs of rodent infestation. Wet the area thoroughly with a disinfectant like bleach and use gloves to clean up. Contact local public health officials for recommendations about safely cleaning rodent-infected areas.

Cabins and buildings that haven't been occupied for some time should be aired out. If possible, buildings should not be used if there are signs of rodent infestation until properly cleaned.

When sleeping outdoors, avoid campsites near rodent droppings, burrows or nests.

Cases

Recently three deaths in California have been linked to an arenavirus. One case has been confirmed and two other cases are highly suggestive. Initial symptoms were flulike. The three individuals were each hospitalized with fever and respiratory distress. Two of them also had severe liver disease and bleeding consistent with viral hemorrhagic fever.

How can I get more information?

Contact the Department of Health Services, Institutions Program at (916) 445-0498 or visit the website at: http://www.dhs.cahwnet.gov or the Centers for Disease Control and Prevention website at: http://www.cdc.gov/